

REMARKS**Summary of the Office Action**

In the Office Action dated September 15, 2004, claims 1-4, 5, 6, 10, 11, 13, and 15 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Sugitani et al. (US, 4, 611,219).

Claims 1, 4, 9, 18, and 19 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Tsuchii et al. (EP 1,186,414 A2).

Claims 1, 2, 4, 8, 10, and 18-20 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by Chang (US, 6,471,317).

Claims 7, 12 and 16 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Sugitani et al. in view of Bader et al. (US, 4,223,323).

Claims 1-17 stand objected to because the base independent claim 1 has a minor informality.

The Abstract stands objected to because it is more than 150 words.

Applicants wish to thank the Examiner for indicating that claims 14 and 17 contain allowable subject matter.

Summary of Response to the Office Action

Applicants have amended independent claim 1 to further define the invention, amended the Abstract, amended claims 1 and 18 to correct minor informalities, added new claim 21, and cancelled claim 5 without prejudice or disclaimer. In addition, Applicants have amended independent claim 1 in accordance with the Examiner to correct minor informalities.

Accordingly, claims 1-21 are presently pending.

Objection of the Abstract

Abstract of the disclosure stands objected because of the excessive length. Applicants have amended the Abstract to 150 words. Accordingly, Applicants respectfully request withdrawal of the objection to the Abstract.

All Claims Define Allowable Subject Matter

Claims 1-4, 5, 6, 10, 11, 13, and 15 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Sugitani et al.; claims 1, 4, 9, 18, and 19 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Tsuchii et al.; claims 1, 2, 4, 8, 10, and 18-20 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by Chang; and claims 7, 12 and 16 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Sugitani et al. in view of Bader et al. Applicants traverse the rejection for at least the following reasons.

Independent claim 1, as amended, recites a liquid drop discharging head, including in part, “all of the ejectors are arranged two-dimensionally in a predetermined plane; each ejector group is formed of ejectors arranged two-dimensionally in the plane,” “a common passage is provided in each ejector group to supply the ejectors with ink,” and “the ejector of each ejector group are disposed such that an imaginary line connecting said ejectors is substantially parallel to the corresponding common passage to supply said ejectors with ink and is inclined at a predetermined angle with respect to the sub-scanning direction.” Similarly, independent claim 18, as amended, recites a liquid drop discharging device, including in part, “all of the ejectors are arranged two-dimensionally in a predetermined plane.” Applicants respectfully submit that at least these features recited in the amended independent claim 1 and the amended independent

claim 18 are neither taught nor suggested by Sugitani et al., Tsuchii et al., Chang, and Bader et al., whether taken singly or combined.

In contrast to the Applicants' claimed invention, Sugitani et al. teaches in FIG. 3 that the two groups of perforations (i.e., first group formed of holes 9-3 and holes 8-3, and second group formed of holes 22-3 and holes 21-3) include a plurality of perforations (i.e., a plurality of ejectors) disposed in a straight line. Whereas, as described in Applicants' claimed invention, a plurality of ejectors are disposed having a two-dimensional array arrangement in a predetermined plane to produce combinations of mixed size dots, thus reducing the deterioration of print quality. Applicants respectfully submit that Sugitani et al. describes the advantages of having the two parallel-disposed liquid-jetting heads such as reduction of head sizes (col. 4, lines 1-12), however, Sugitani et al. is completely silent about the two groups of perforations disposed in two-dimensions adapted to produce mixed size dots.

In addition, as depicted in FIGS. 1A, 2A, 3A, 8A of Tsuchii et al., and as depicted in FIGS. 2, 5, 11, and 12 of Chang, Applicants respectfully submit that neither Tsuchii et al. nor Chang teaches a plurality of common passages adapted to supply the ink to a group of ejectors disposed in the two-dimensional array. Applicants respectfully submit that Tsuchii et al. discloses a plurality of ink-flow paths 53 (i.e. common passage) disposed in a straight line supplying the ink to a dedicated ink jet recording head. Furthermore, Applicants respectfully submit that Chang discloses an ink supplying way (i.e., second common passage) having a plurality of sub-ink supplying way (i.e., common passage) extended from the ink supplying way disposed in a straight line and supplying the ink to a dedicated nozzle. On the other hand, in the Applicant's claimed invention, a plurality of ejectors disposed in a two-dimensional array are

connected to the corresponding common passage which has an inclined angle about the main-scanning direction supplying the ink to the plurality of ejectors in a group.

As pointed out in MPEP §2131, “[t]o anticipate a claim, the reference must teach every element of the claim.” Thus, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987).

Accordingly, Applicants respectfully request that the rejection of claims 1 and 18 under 35 U.S.C. §§ 102(b) and 102 (e) be withdrawn because Sugitani et al., Tsuchii et al., and Chang, whether taken singly or combined fail to teach at least the features of “all of the ejectors are arranged two-dimensionally in a predetermined plane; each ejector group is formed of ejectors arranged two-dimensionally in the plane,” “a common passage is provided in each ejector group to supply the ejectors with ink,” and “the ejector of each ejector group are disposed such that an imaginary line connecting said ejectors is substantially parallel to the corresponding common passage to supply said ejectors with ink and is inclined at a predetermined angle with respect to the sub-scanning direction,” as recited in the amended independent claim 1 and “all of the ejectors are arranged two-dimensionally in a predetermined plane,” as recited in the amended independent claim 18.

Furthermore, in light of arguments presented above, Applicants respectfully submit that Bader et al. fails to cure the deficiencies of Sugitani et al. Accordingly, Applicants respectfully request that the rejection of dependent claims 7, 12 and 16 under 35 U.S.C. 103(a) be withdrawn. Thus, Applicants respectfully submit that dependent claims 2 – 4, 6 – 17, and 19-20 are in condition for allowance for their dependency to allowable independent claims 1 and 18, and for

the additional features that they recite.

New Claims 21

Applicants have added new claim 21. Applicant respectfully submits that new claim 21 further defines the subject matter of the present invention. Thus, Applicant respectfully requests consideration of newly added claim 21.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application, withdrawal of all rejections, and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.R.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully Submitted,

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Dated: December 15, 2004

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